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# Salivary Gland Pathology

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# Case 1

- 32 y/o male with episodic pain and swelling from his left upper neck for several years
- Enlarged, non-tender left submandibular gland and surrounding lymphadenopathy
- No palpable stones
- CT scan - small calculi
- FNA lymph nodes – benign, reactive

# Case 1

- Left submandibular gland excision with biopsy of enlarged level 2 and 3 lymph nodes

- Mild focal chronic sialoadenitis
- Lymph nodes – reactive hyperplasia

# Case 2

- 58 y/o female with progressively enlarging left facial mass for 40 years
- 8 x 7 cm lobular mass overlying angle of jaw
- No palpable lymphadenopathy
- Facial nerve function intact
- CT scan – 2.8 x 2.2 cm cystic mass in superficial left parotid gland

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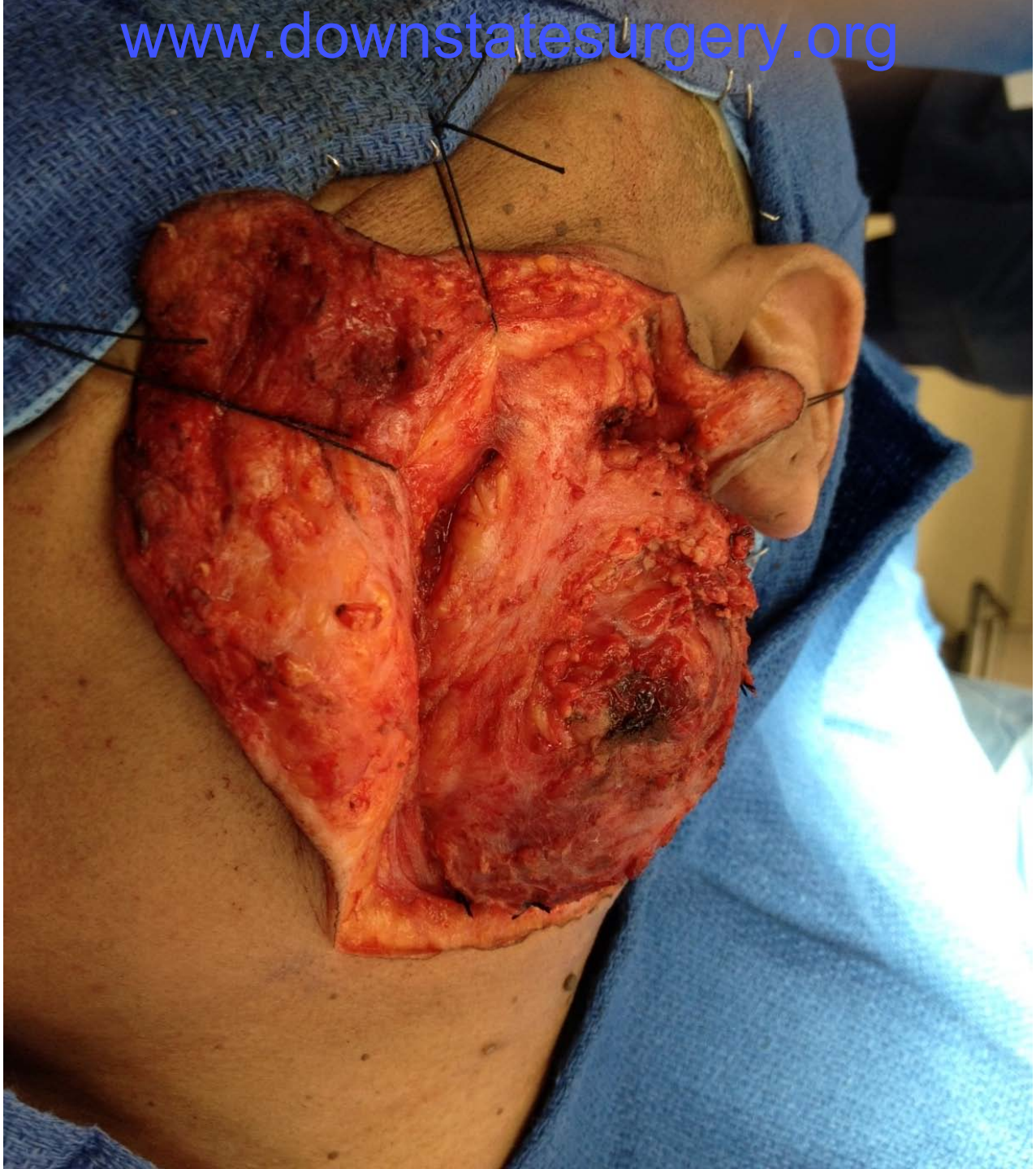

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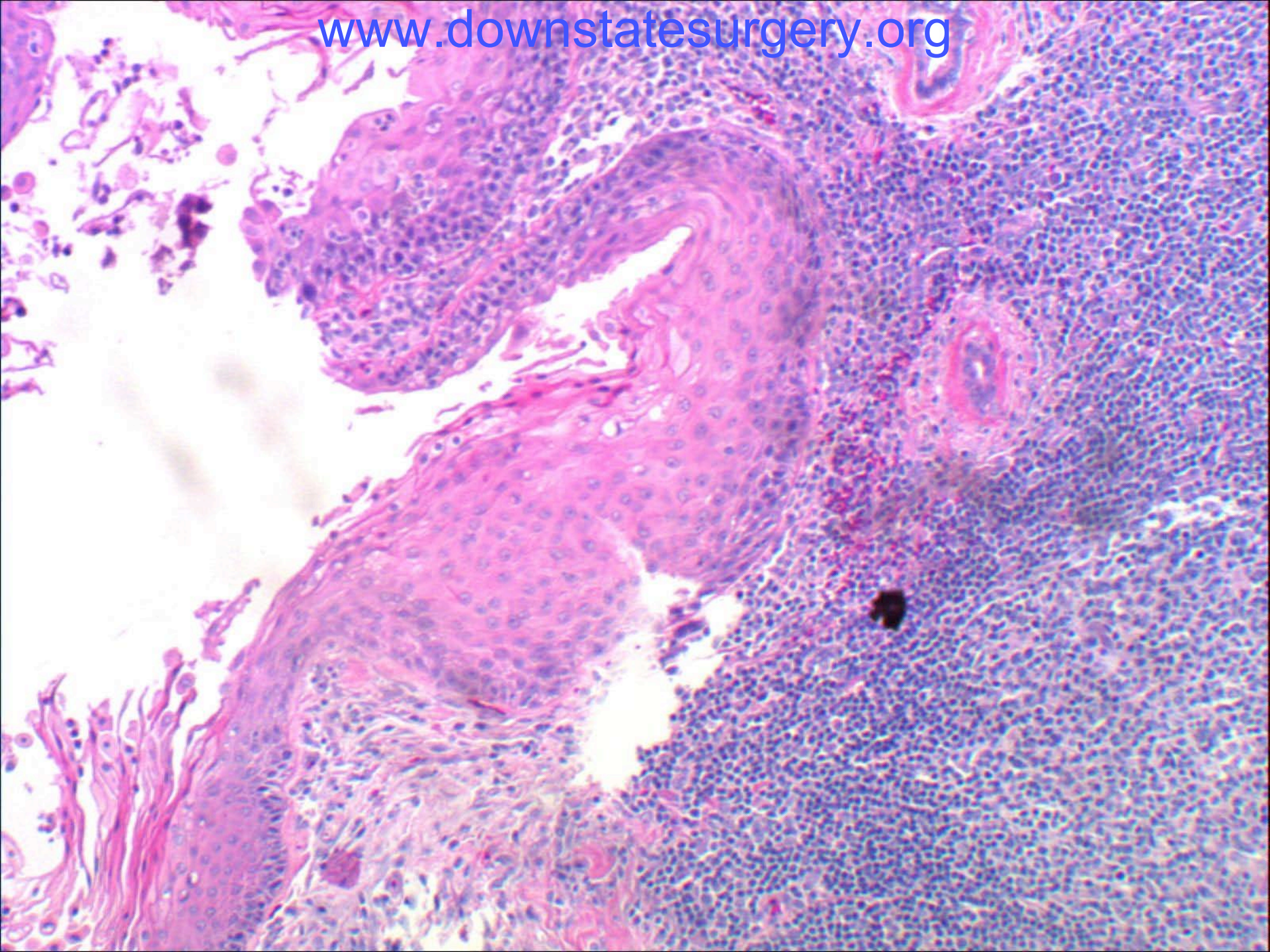

# Case 2

- Left superficial parotidectomy

- 6 x 5 x 4 cm parotid gland with chronic sialadenitis
- 3 cm lymphoepithelial cyst

# Outline

- Anatomy
- Physiology
- Non-neoplastic Diseases
- Benign Tumors
- Malignant Tumors

# Anatomy

- Parotid glands
  - Stenson duct -> opposite 2nd maxillary molar
- Submandibular glands
  - Wharton duct -> behind mandibular incisors
- Sublingual glands
  - Major duct of Bartholin -> Wharton duct
  - Multiple minor ducts of Rivinus -> floor of mouth
- Minor Salivary glands

# Physiology

- Produce 500-1500 mL of saliva daily

- Digestive enzymes
- Bacteriostatic functions
- Lubrication
- Hygienic activities

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# Non-neoplastic Diseases

# Mumps (Viral Parotiditis)

- Acute bilateral painful erythematous parotid swelling
- Fever and malaise
- Young children
- 2-3 week incubation period
- CONTAGIOUS
- Rare with vaccination

# Acute Suppurative Sialadenitis

- Acute tender swollen gland
- Fever
- Dehydration, trauma, immunosuppression
- Elderly and post-op patients
- May lead to abscess
- Culture saliva
  - S. aureus, S. pneumoniae, E. coli, H. influenza

# Lymphoepithelial Cysts

- Painless parotid swelling
- Xerostomia
- Cyst fluid contains amylase
- Often the presenting symptom for HIV

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# Chronic Granulomatous Sialedenitis

- Cat-Scratch disease (Bartonella henselae)
- Sarcoidosis (Heerfordt syndrome)
- Actinomycosis (dental infection or trauma)
- Wegener Granulomatosis (C-ANCA)
- Syphilis
- Tuberculosis

# Sialolithiasis

- Acute painful swelling after eating
- 85% occur in submandibular gland
- Usually subsides in an hour
- A stone may be palpated or demonstrated on radiographs
- 20% recurrence rate
- Can lead to acute suppurative sialadenitis, duct ectasia or stricture

# Sialolithiasis Treatment

- Intraoral extraction
- Surgical Excision of gland
- Endoscopy
- Radiologic wire basket extraction
- Laser lithotripsy
- Shock wave lithotripsy

# Chronic Sialadenitis

- Chronic pain or swelling worsened by eating
- Causes
  - Recurrent acute infections
  - Trauma
  - Radiation
  - Iodine
- Attempt to treat underlying cause
- Must rule out malignancy

# Sjögren Syndrome

- Mostly affects females in their 50's
- Associated with Rhematoid Arthritis and Lupus
- Dry eye, dry mouth, altered taste, dry skin, myalgia, vaginal dryness, vasculitis, and arthritis
- Treated with steroids

# Kimura Disease

- Slowly growing painless salivary gland mass
- Associated with lymphadenopathy
- Primarily in Asian males, teens – 20's
- Eosinophilia
- Treated by gland excision

# Benign Tumors

# Of salivary gland tumors:

- 80% occur in the parotid glands
  - 75% benign
- 15% occur in the submandibular glands
  - 50% benign
- 1% occur in the sublingual glands
  - 25% benign
- 4% occur in the minor salivary glands
  - 35% benign

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# Treatment of Benign salivary gland tumors

- excision with a negative margin

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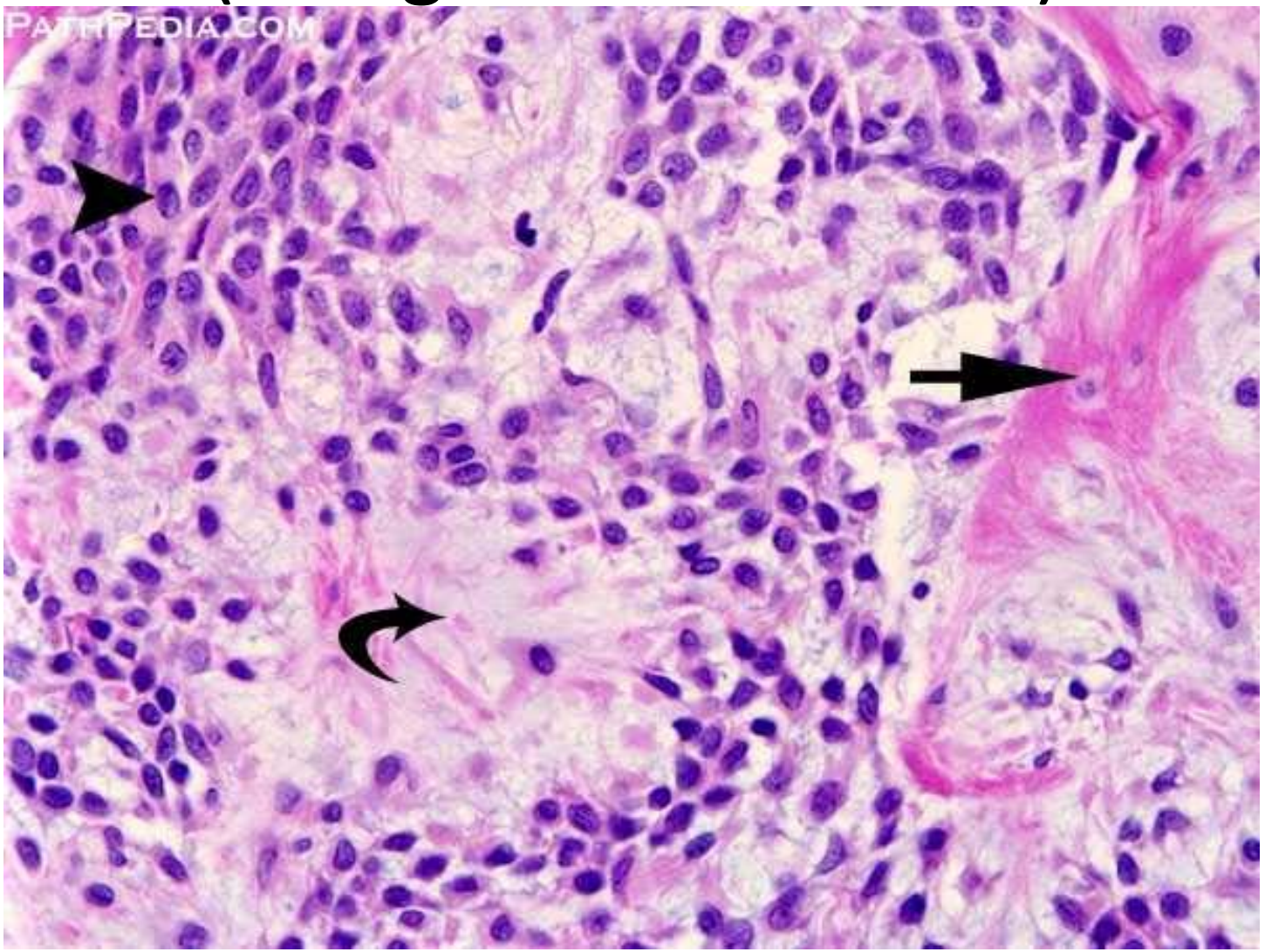
# Pleomorphic Adenoma (benign mixed tumors)

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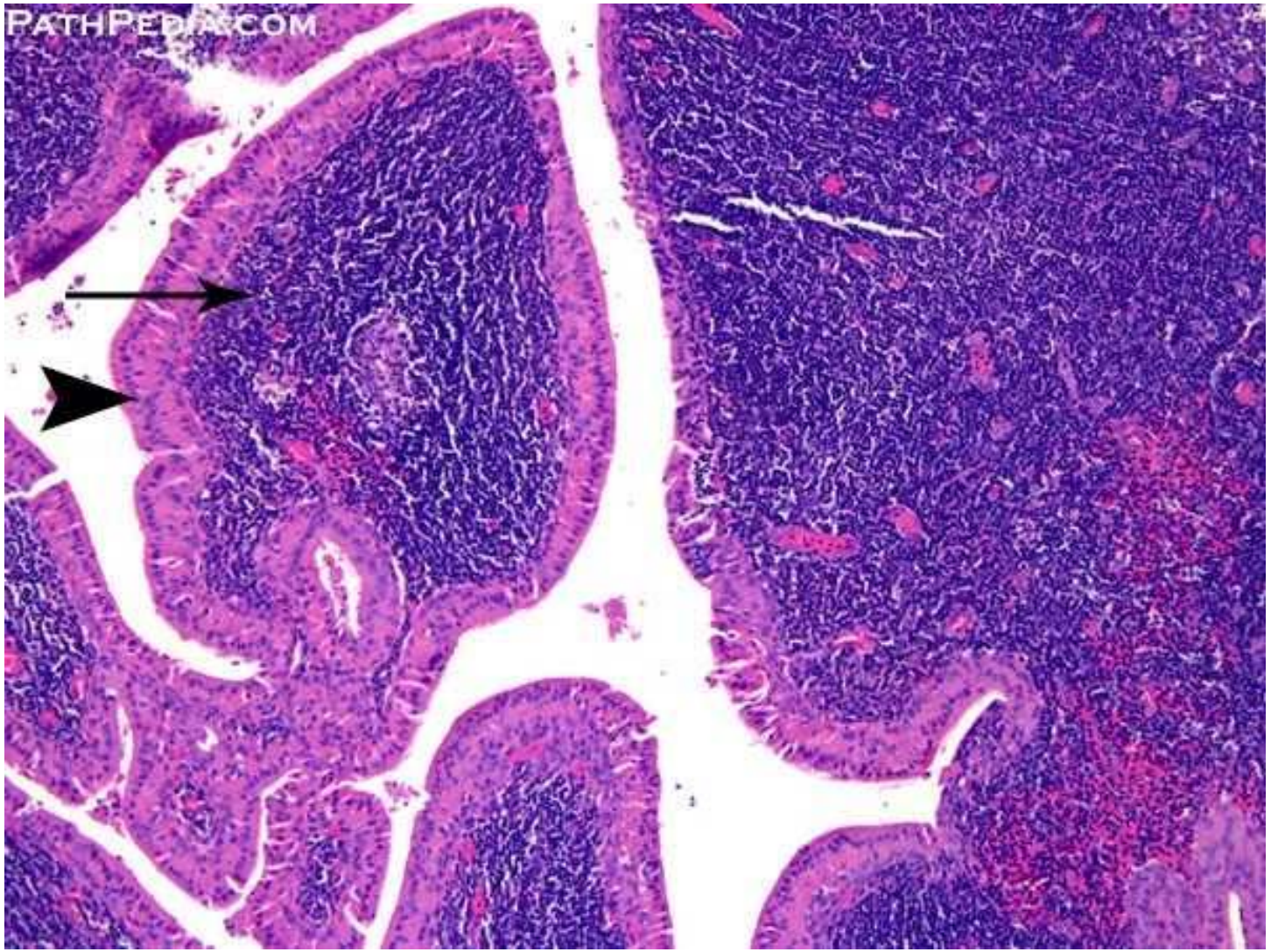
# Warthin Tumor

## (papillary cystadenoma lymphomatosum)

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# Malignant Tumors

# Pathogenesis

- Reserve Cell Theory (currently favored)
  - Arise from stem cells that undergo malignant transformation during differentiation
- Multicellular Theory
  - Malignant transformation of differentiated cells

# Surgical Treatment

- Total parotidectomy
  - Only sacrifice facial nerve if it is involved in tumor
- Supraomohyoid neck dissection
  - Only sacrafice lingual, hypoglossal and marginal mandibular nerves if they are involved in tumor

# Elective Neck Dissection

- Clinical lymphadenopathy
- Tumor > 4cm
- High grade histology

- Not necessary for adenoid cystic carcinoma

# Neutron-beam Radiation Therapy

- Tumor > 4cm or extraparenchymal invasion
- High-grade histology
- Positive lymph nodes
- Nerve involvement
- Close margins
- Bone, cartilage or muscle invasion
- Recurrent disease

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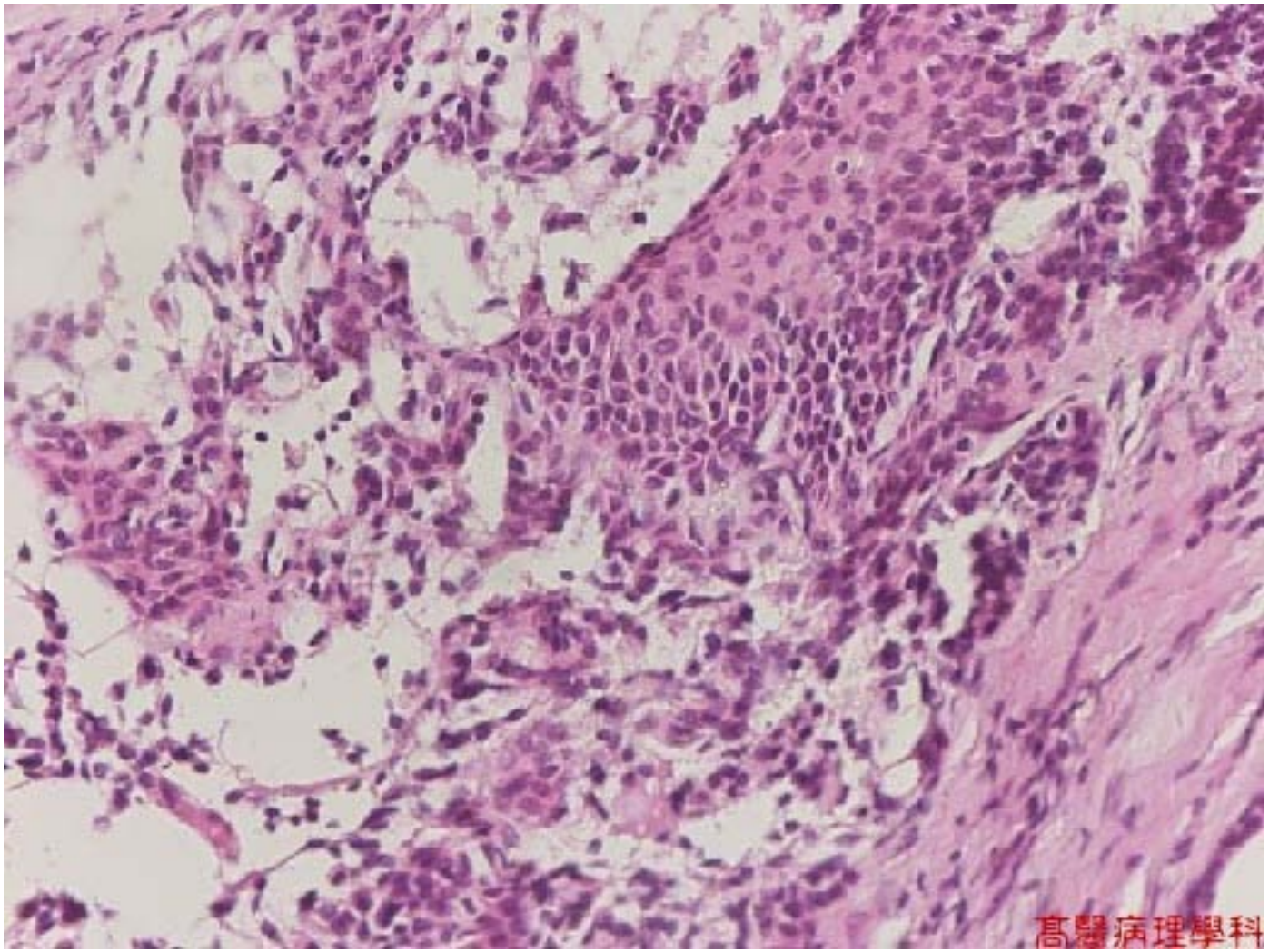
# Mucoepidermoid Carcinoma

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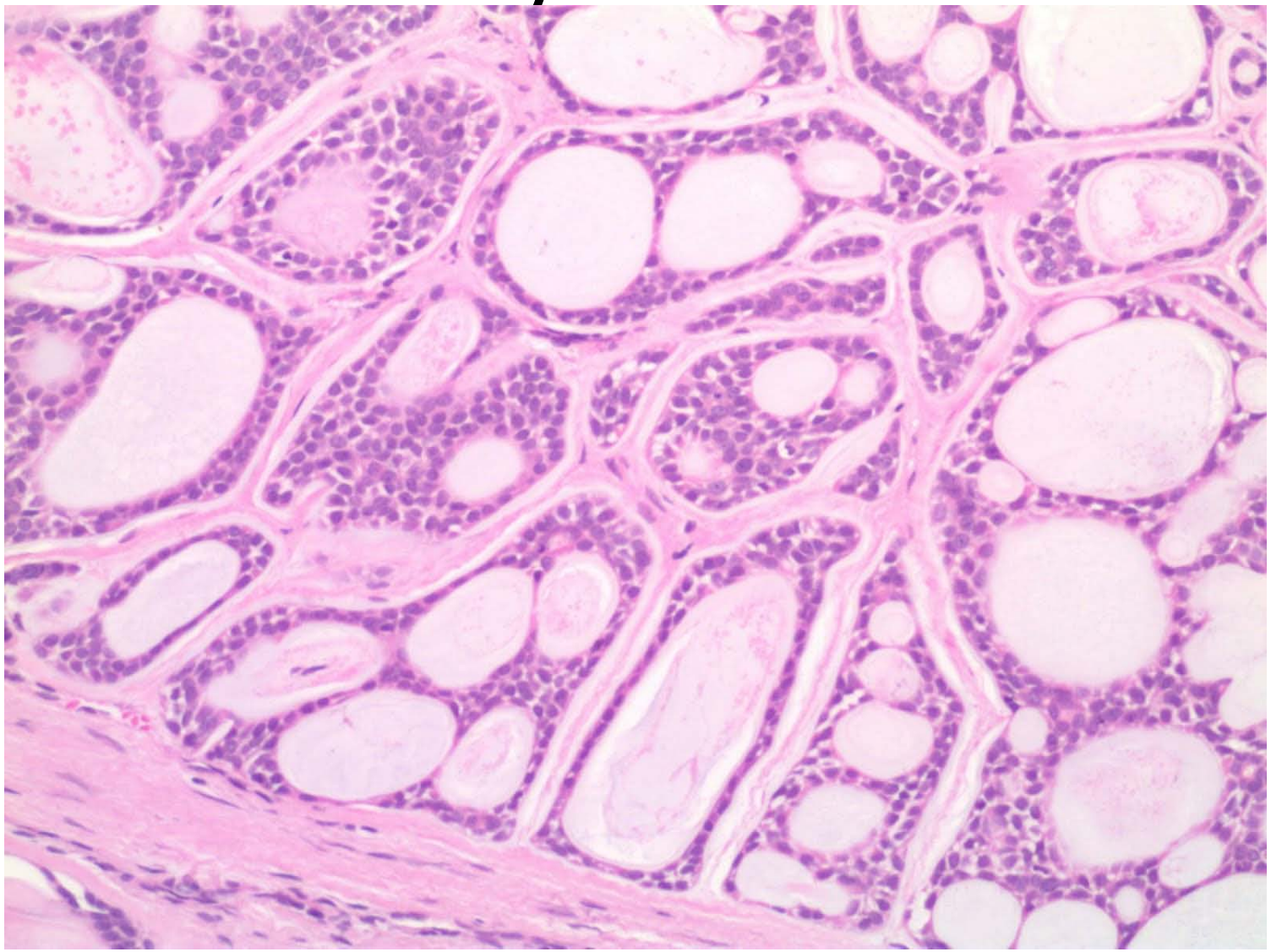
# Adenoid Cystic Carcinoma



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